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GAS-INDUSTRY MINISTER NAMES IMPROVEMENTS THAT MUST BE MADE

Moscow GAZOVAYA PROMYSHLENNOST' in Russian No 3, Mar 84 pp 3-7

[Address by Minister of Gas Industry V. A. Dinkov, "Along the Path of Boosted Development of the Gas Industry"]

> [Text] An address by Minister of Gas Industry V. A. Dinkov at an expanded session of the Mingazprom [Ministry of Gas Industry] Board and the Central Committee of the Trade Union of Oil and Gas Industry Workers, "Tasks of Gas Industry Workers in Fulfilling the State Plan for Economic and Social Development of the Industry During 1984 in Light of the Decisions of the December 1983 CPSU Central Committee Plenum," on 4 February 1984.*

Our country's whole social and political life and the strenuous creative activity of the Soviet people operate under the beneficial influence of the decisions of the December 1983 CPSU Central Committee Plenum and the Ninth Session of the USSR Supreme Soviet of the 10th Convocation, which have become a portentous landmark in the drive to execute the social and economic program contemplated by the 26th Party Congress.

The plenum pointed out the necessity for concentrating efforts to insure the fulfillment and overfulfillment of plan tasks for the current year on the basis of social production, a strengthening of its intensification, and improvement in the quality of all work. In so doing, the main stress was placed on raising the level of management and accelerating scientific and technical progress, using more completely our production potential and material, labor and financial resources, increasing labor productivity above the plan, reducing the prime costs of production, strengthening the savings campaign in every possible way, and reinforcing state, plan, and labor discipline.

Among important tasks of the national economy, the December 1983 CPSU Central Committee Plenum named realization of the USSR Energy Program as one of the decisive prerequisites for bringing the Soviet economy to the energy-saving and intensive path of development. In the successful solution of this task, a special role is assigned to the gas industry, which enables a boosted buildup in the recovery of a high-quality fuel and a valuable chemical raw material.

*Published in condensed form.

Then the Ministry of Gas Industry named the main results of the industry's operation for the first 3 years of the current five-year plan, in which the indicators achieved in 1983 comprised the more meaningful portion. Gas recovery was brought up to 535.7 billion m^3. Much crude oil, condensate, sulfur, engine fuel and ethane were also recovered and produced. The industry's machinebuilding plants produced during this period 89 million rubles' worth of consumer goods, surpassing the plan and the supplemental task by 4.8 million rubles. For the industry as a whole, the volume of industrial output rose by 5.8 percent versus the plan goal of 4.6 percent and labor productivity increased 4.2 percent versus the plan's 1.4 percent. In so doing, 75 percent of the growth in industrial output was obtained through higher labor productivity.

The plan for capital investment was fulfilled 104.9 percent, the plan for construction and installing work by 118.4 percent. More than 10,000 km of trunk gas pipelines and tens of compressor stations were put into operation, new UKPG's [integrated gas-treatment installations] started to operate, and hundreds of wells were drilled through and connected to them.

Positive achievements occurred in housing construction: more than 846,000 m^2 of living space were turned over for use versus the planned 835,000 m^2. In so doing, almost 250,000 m^2 were built by our own forces versus the planned 227,000 m^2. Many hospitals, polyclinics, schools, children's preschool institutions and other social, cultural and personal-services facilities were put into operation.

The results of the gas industry's 1983 work testified that a good basis had been laid in the industry for the successful fulfillment of the tasks for this year and for the five-year plan as a whole. It is most important now, as was emphasized at the December CPSU Central Committee Plenum, not to lose the pace reached and to adjust ourselves to greater strenuousness in the work without reductions because of difficulties, of which we shall have many.

The state plan for the economic and social development of the gas industry in 1984 is marked by a further increase in the recovery, treatment and transporting of gas and in drilling and machinebuilding output. V. A. Dinkov named further development of the Urengoy field, where, along with the introduction into operation of capacity for recovering and treating gas, hard-topped roads and huge capacity for the recovery and arterial transport of gas condensate are to built and put into operation, as among the more important tasks of the year.

The transcontinental Urengoy-Pomary-Uzhgorod gas pipeline is to be brought up to design capacity through completion of the construction of KS's [compressor stations]. A major gas-transport construction project of the year is strand No 1 of the Urengoy-Central Economic Region gas pipeline. It is planned that the linear portion and half of the compressor stations will be introduced in the first half of the year.

At the Karachaganak field, the first gas-field structures for recovering condensate will be built and put into operation.

It is planned to create substantial gas-recovery capacity at Sovetabad and a number of other fields in Turkmenia.

In order to improve housing and household conditions and also to protect the health of gas-industry workers, it is planned to introduce 900,000 m^2 of housing, general education schools for 5,500 pupils, institutions for 5,000 preschoolers, and other facilities for social, cultural and personal-services purposes.

The strenuous tasks of the annual plan have undergone preliminary deep and careful analysis in the ministry's administrations and sections, have been repeatedly examined at board meetings, with the broad participation of association specialists, and form a comprehensive substantiated program for the further development of the gas industry.

It was emphasized at the December Plenum: "Because of the worsening of the international situation, through the fault of aggressive imperialist circles, unfailing fulfillment of the state plan becomes not only the responsibility but also the patriotic duty of each Soviet person...."

The party constantly requires us, while fulfilling our tasks, to persistently seek out production reserves in order not only to insure unconditional fulfillment but also overfulfillment of the plan. Based upon this, we should exhaustively and critically analyze in detail the results of our activity, concentrating attention primarily on the more critical questions.

All managers of associations, enterprises and ministry administrations and sections and all supervisors of trade-union organizations must strictly and systematically monitor the fulfillment of established tasks by each enterprise and organization, extend timely and effective help to them, and decisively suppress any violations. We shall judge the ability of economic supervisors in organizing the work and in mobilizing the people to achieve high final results by how these assignments are translated into concrete practical matters in each working collective.

Serious deficiencies in developing drilling that lead to systematic underfulfillment of plan tasks should be dwelt on especially. Last year drilling enterprises increased drilling volume 19 percent over 1982, but at the same time the plan for penetration was met by only 93.3 percent.

Then V. A. Dinkov named the causes of the unsatisfactory drilling indicators: in Tyumengazprom [Tyumen Gas Industry Association] it is poor monitoring over drilling technology, while in Turkmengazprom [Turkmen Gas Industry Association] it is the inadequate organizational level of the work of drilling brigades and the subsidiary and auxiliary services. The activity of Kaspmorneftetazprom [Caspian Offshore Oil and Gas Industry Association] drilling enterprises has been subjected to serious criticism because of poor supervision of drilling, interruptions in materials-and-equipment systems for supplying drill pipe, tools and chemical reactants, systematic violations of drilling technology, and accidents and defects when constructing wells. In January the ministry's board examined thoroughly the state of affairs in Kaspmorneftegazprom and worked out a set of measures for considerably improving drilling work. Disciplinary and pecuniary action were taken against the guilty.

Despite the great assistance the ministry has provided Soyuzuzbekgazprom [All-Union Uzbek Gas Industry Association] in providing for rhythmic operation of the Mubarek GPZ [gas-treatment plant], the state of affairs at that enterprise is slow in being corrected. Serious deficiencies in organizing production and in assigning and training personnel are leading to poor technological and production discipline and a low level of equipment operation. A stable work collective must be created here and the qualifications of its members strengthened and the social and domestic conditions of the workers improved if production effectiveness is to be raised.

The December plenum assigned a specific task to party and trade-union organizations and laboring collectives--to increase labor productivity above the plan by 1 percent and to reduce prime production costs by an additional 0.5 percent.

In emphasizing the importance of resolving this task for the national economy, V. A. Dinkov noted that an increase in labor productivity in the industry by 1 percent would give 65 million rubles' worth of additional industrial output, and he pointed out specific reserves for increasing labor productivity in the industry.

We have many advanced machinebuilding plants--for example, the Brest, Dnepropetrovsk and Druzhkov Gas-Equipment Plants, which provide from year to year for steady growth of labor productivity through constant improvement of industrial processes, the introduction of progressive automation and mechanization equipment, and the wide development of brigade forms for organizing the work. At the same time, production is poorly organized, work and operating discipline are weak, and there is great personnel turnover at the Kazan, Ashkhabad, Tashkent and some other plants.

It is necessary to analyze persistently the level of work organization at each machinebuilding enterprise, work out specific measures for the more effective use of labor resources, develop intrabranch specialization and cooperation, introduce automatic production lines and industrial robots, and improve the planning and supplying of materials and equipment.

Subunits that repair and service trunk gas pipelines have great possibilities at their disposal for raising labor productivity. The main production reserves in this sphere of work consist in raising the quality of vocational training of personnel, more complete manning of the repair services with qualified specialists, the creation, based upon an analysis and generalization of the experience of advanced repair brigades, of a set of equipment for minor mechanization and a kit of personal tools and accessories, and the production thereof in the necessary amounts by the industry's plants.

One of the most important criteria for evaluating the operating effectiveness of associations and enterprises is the prime cost of producing output. A reduction of this indicator below the plan by 0.5 percent will save the industry 46 million rubles. For this purpose it is necessary primarily to raise effectiveness in the use of fixed capital and reduce the consumption of material, fuel and power resources. The task established for the ministry for savings was carried out successfully on the whole in 1983. However, a thrifty attitude toward the resources allocated still has not become the immutable rule of economic activity at all enterprises.

Having examined deficiencies in the area of saving resources, V. A. Dinkov emphasized that some associations that tolerate in-house overconsumption of gas--Sredaztransgaz [Central Asia Gas Transport Association], Tyumentransgaz [Tyumen Gas Transport Association], Mostransgaz [Moscow Gas Transport Association] and Aztransgaz [Azerbaijan Gas Transport Association] are poorly monitoring the technical condition of the equipment and the conduct of overhaul and preventive maintenance at gas-transport system enterprises.

Not enough attention is still being paid to saving turbine oil for the GPA's [gas-pumping units], rolled metal for machinebuilding output, drilling and casing pipe and reactants for drilling. Tyumentransgaz, Saratovtransgaz [Saratov Gas Transport Association], the Rostov and Fergana Gas-Equipment Plants, Komigazprom [Komi Gas Production Association], Turkmengazprom and a number of other associations overconsumed the types of resources named.

Serious cases of wastefulness were discovered at Kaspmorneftegazprom enterprises, at whose central supply base casing and other pipe were stored in bulk without being classified, and the reserves of lignin-alkali reactant here exceed the standard almost 8-fold.

Overconsumption of material, fuel and power resources and nonfulfillment of the established norms and tasks for saving them testify that the supervisors of some associations and enterprises need to take a more responsible approach to party and government decisions, to ministry instructions, and to the decrees of board and the presidium of the industry's trade-union central committee on this matter. The board and the presidium of the trade-union central committee, said V. A. Dinkov, are calling the attention of the industry's association and enterprise managers to the fact that they bear personal responsibility for the results of the work being done to conserve and to make thrifty use of material, fuel and power resources. Fulfillment of ministry-set tasks on savings will be one of the chief criteria for evaluating their economic activity and skill in managing production.

The CPSU Central Committee Plenum has aimed at completely equipping the existing production potential for high performance. There is still unused capacity, which we are obligated to bring into operation. Thus, 10 percent of the operational well inventory of Orenburggazprom [Orenburg Gas Production Association], 14 percent of Tyumengazprom's and 15 percent of Komigazprom's are inactive, awaiting completion and hook-up. Matters are still worse in Soyuzuzbekgazprom and Turkmengazprom.

The board requires that association managers considerably improve use of the operational well inventory, improve operating discipline at oilfield facilities and raise the quality of gas treatment as quickly as possible.

In-house machinebuilding has substantial reserves for making more complete use of production capacity. Each enterprise must work out specific plans for eliminating bottlenecks and disproportions that reduce production-capacity utilization effectiveness, raise the shiftwork-utilization factor of the equipment, provide for a more complete workload on the pool of machine tools, machinery and mechanisms, and introduce uninstalled equipment into operation as quickly as possible. Active steps must be taken to organize the training of qualified machine-tool operators and to retain them at the plants by creating suitable housing, social and living conditions for them.

Gas-transport associations did definite work in 1983 to improve the use of production capacity, which enabled the effectiveness and reliability of the functioning of the country's Unified Gas Supply System to be raised.

However, something still remains to be desired in the work to increase effectiveness in the use of production capacity for transporting gas--the existing reserve here is not being used completely. Effective steps should be taken to strengthen operating discipline, raise the responsibility of workers for the job assigned them, and pay the most serious attention to the need to raise the level of technical training of operating personnel.

Timely and precise delivery of output in accordance with contract commitments is of great importance in the system of measures for strengthening plan discipline. However, many enterprises of the industry underestimate the importance of contract discipline for delivering output in the prescribed products mix by the established deadlines. There was a shortfall during 1983 of almost 17 million rubles' worth of output under concluded agreements. The managers of central-staff administrations and associations, especially of Kaspmorneftegazprom, Soyuzuzbekgazprom, Soyuzgazifikatsiya [All-Union Association for the Installation of Gas Equipment] and Soyuzgazmashapparat should impose strict order in the observance of contractual commitments.

One of our main concerns is the acceleration in every possible way of scientific and technical progress. Much will depend upon what was emphasized at the December CPSU Central Committee Plenum, and upon how we mobilize enterprise collectives for speeding up scientific and technical progress.

The gas industry's development is marked by heavy reequipping with machinery. Compressor stations are being equipped with new-generation gas-pumping units of 16,000 and 25,000 kW capacity in a modular, basementfree version. Units with aviation-engine drive will be used increasingly widely.

The operating equipment has been completely updated at KS's: AVO's [air coolers] for gas, dust traps, separator filters, and installations for receiving and launching cleaning pigs. Introduction of the new equipment has enabled a sharp reduction in expenditures for erecting compressor departments and a 2-fold to 3-fold cut in the requirement for shut-off fixtures, connecting joints and cable products.

Technological lines with productivities of 10 million m^3 of gas per day have been created for recovering gas.

A qualitatively new basis for automating the industry, based upon the use of microprocessors, is being formed. The overall technical level of production has risen: more than 92 percent of the gas recovered and 88 percent of the gas transported is being treated and compressed at automated installations and compressor departments.

V. A. Dinkov later also examined a number of serious deficiencies in the work of introducing measures for scientific and technical progress that caused nonfulfillment of plans for producing ethane and odorant and for erecting deepwater platforms in the Caspian Sea. In speaking about the contribution of the industry's science in speeding up scientific and technical progress, the

speaker noted that its work required substantial improvement, named specific omissions by a number of institutes and basic tasks of gas-industry scientific and technical centers and of the industry's All-Union science-and-production associations.

The large scale of the tasks assigned to the gas industry by the USSR Energy Program requires a different approach to the creation of new equipment and technology. In accordance with the CPSU Central Committee and USSR Council of Ministers decree, "Measures for Speeding up Scientific and Technical Progress in the National Economy," the ministries that are the prime clients for output also become responsible for the level of indicators of the new equipment. That is why our industry's institutes should insure the development of technical specifications for new equipment whose indicators will meet world standards. The most important direction of scientific and technical progress is the development of technologies that will enable an increase in gas and condensate yield from the reservoirs and a reduction in losses thereof.

Fulfillment of the plan approved by the board for first-priority measures for speeding up scientific and technical progress should be the main task of scientific-research organizations, associations, enterprises and administrations.

The role of the industry in improving sanitary conditions in cities by replacing coal and petroleum product with natural gas is well known. However, it is necessary, in so doing, to reduce the negative effects of some enterprises on the environment to a minimum. For this purpose about 70 million rubles are aimed each year at executing nature-conservation measures. Realization of these measures should be viewed as a task of great economic and social importance. Cases of violation of nature-conservation legislation must be completely precluded and the planned facilities introduced on time.

Special attention was paid at the December 1983 CPSU Central Committee Plenum to the need to improve the organization of capital construction and the concentration of forces and funds on facilities due for early startup and to provide for the most rapid introduction into operation and assimilation of new production capacity.

V. A. Dinkov also told about the great work that the industry is doing to improve the organization of capital construction and to raise capital-investment effectiveness. However, the speaker emphasized, the state of affairs in capital construction cannot satisfy us. The introduction of new facilities into operation by Urengoygazdobycha [Urengoy Gas-Recovery Association], Nadymgazprom [Nadym Gas Production Association] and Turkmengazprom is suffering delay. Tyumentransgaz management has been engaged unsatisfactorily for a number of years in the construction of cooling stations at Urengoy.

There is still much criticism from contracting organizations about the quality of design and budget-estimating papers, the failure to supply them in complete sets and delay in the dates of their release, and about inadequate organization of designers' surveillance and the incompetence of various design-institute specialists in this matter. The indicated deficiencies testified that the managers of Giprogaztsentr [State All-Union Institute for the Design of Gas Industry Facilities in the Central Economic Region],

VNIPItransgaz [All-Union Scientific-Research Institute for Natural Gas Transport] and Giprospetsgaz [State Institute for the Design of Trunk Pipelines and Special Gas-Industry Facilities] still have not taken adequate steps to improve production and operating discipline at all stages of design-work performance.

Work on furnishing complete sets of equipment to facilities is constantly the center of the board's attention. A system of information about its progress has been developed and is operating. However, the workers of the outfitting services do not always show responsiveness in matters of delivery of equipment. Serious deficiencies have been found in accounting for, storage, and use of equipment by Tyumengazprom, Kuybyshevtransgaz [Kuybyshev Gas Transport Association], Bashtransgaz [Bashkir Gas Transport Association] and Gorkiytransgaz [Gorkiy Gas Transport Association].

In analyzing the status of construction of gas-filling compressor stations that refuel trucks with liquefied natural gas, the speaker pointed out the necessity to intensify monitoring over progress in the construction of AGNKS's [automotive gas-refueling compressor stations] and to raise exactingness toward supplying organizations in order to insure unconditional fulfillment of the tasks on converting automotive transport to liquefied gas.

It was emphasized at the plenum that all our efforts at savings are, in the final analysis, aimed at raising the people's standard of living. This is the main social and political goal of our plans. This means that we should keep questions of the construction of housing and social, cultural and domestic facilities, as well as consumer-goods production foremost in mind, viewing these matters as first-priority tasks.

In paying special attention to questions of consumer-goods output, V. A. Dinkov pointed out the industry's reserves in this matter. The production of goods for cultural and household purposes has not been organized in Kaspmorneftegazprom and at the Sysert plant and Angren's "Podzemgaz" station; the consumer properties of goods produced by Soyuzgazmashapparat, Soyuzpromgaz [All-Union Science and Production Association on the Rational Use of Gas in the National Economy] and Soyuzturbogaz enterprises are not being improved, at a time when the most earnest attention must be paid to increasing the output of goods of better quality.

During the first 3 years of the five-year plan the industry did much to introduce brigade forms for organizing the work. At the same time, the method of differentiated wages for brigade members that uses the labor-participation coefficient still has not been widely disseminated. Association managers, especially those of Tyumengazprom, Sakhalinmorneftegazprom [Sakhalin Offshore Oil and Gas Industrial Association], Soyuzgazifikatsiya, Soyuzburgaz and Noril'skgazprom [Norilsk Gas Production Association] and Komigazprom should strengthen attention to questions of improving brigade forms for organizing the work.

Based upon the growing and increasingly complicated economic tasks of continually reequipping the industry with machinery, it is necessary to approach anew the system of training personnel--to conduct it differentially for each

category of worker, engineer and technician, to take into consideration the development of professional and vocational practices, methods for doing specific work, and organizational capabilities of each gas-industry worker in actual production situations, using for this purpose special training simulators and other technical resources. Moreover, V. A. Dinkov described the tasks of industry subunits in creating and using new teaching methods, and he dwelt on questions of training supervisors at all levels and of a reserve thereof.

In achieving our successes, of the greatest importance are: the assignment of personnel according to professional and political qualities, and the training of genuine organizers, production patriots and active strugglers for the honor of the enterprise. Boris Aleksandrovich Glukhov--director of the Murmansk School of Vocational Education of Artikmorneftegazrazvedka [Association for Arctic Offshore Oil and Gas Exploration]--is an example of this. Thanks to his initiative and creative attitude toward the school's job, he has in a short time transformed the school into a model training institute, which readies worker personnel not only for the trust but also for the Tyumengazprom and Komigazprom Associations.

Inspired by the decisions of the December 1983 CPSU Central Committee Plenum, advanced collectives of Tyumengazprom, Orenburggazprom, the Druzhkovskiy Gas-Equipment Plant and other enterprises have undertaken high socialist commitments and have appealed to all the industry's collectives to promote labor rivalry widely for overfulfillment of the tasks established for increasing labor productivity, reducing production expenditures, making more complete use of production capacity, achieving maximum savings of material, fuel and power resources, increasing the output of consumer goods, and fulfilling plans for the 11th Five-Year Plan period ahead of schedule. These valuable patriotic initiatives were embraced by all labor collectives. We must in every possible way support and widely disseminate initiatives that are useful and come actively from the masses. It is important, in so doing, to know how to encourage those who work conscientiously and who achieve the best results and to laud their glory to the skies. The main thing right now is to create a favorable, businesslike atmosphere in all the industry's production elements, to mobilize existing resources to the maximum, to see to it that each worker comprehends creatively the whole ideological richness of the December 1983 CPSU Central Committee Plenum decisions and becomes aware that plan fulfillment depends also upon his personal contribution. This will help in the successful fulfillment of the high socialist commitments adopted for 1984 by the industry's collectives.

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DEPUTY MINISTER SOROKIN ON URENGOY

Kishinev SOVETSKAYA MOLDAVIYA in Russian 15 Feb 84 p 4

[Interview with A. I. Sorokin, deputy minister of the construction enterprises of the USSR Oil and Gas Industry: "The Gas of Urengoy", conducted by R. Aleksandrova, date and place not specified]

[Text] On 1 January 1984 gas from the Urengoy deposits crossed the border of the Soviet Union - its "business visit", so to speak, to the countries of Western Europe had begun. The matter of the construction of the transcontinental pipeline from Urengoy to Pomary to Uzhgorod attracted the attention of the whole world. It is not surprising. In its engineering parameters, overall dimensions, and period of construction it supasses everything that has been done in these terms anytime, anywhere on our planet.

But, unfortunately, the unusualness of its overall dimensions was not the only reason for the universal, intense, attention to this construction project. A determined, unwholesome hullabaloo developed around the construction of the largest fuel and power engineering facility on the planet. There are bad memories of the "sanctions" of the Reagan administration which reckoned that the Soviet Union would be unable, independently, to build the huge pipeline. There also are bad memories of the very diverse provocations concerning equipment deliveries, and even the Western propaganda rumor that was started about the millions of prisoners whose labor supposedly was being used in laying the pipeline.

All this, naturally, could not fail to arouse a sense of indignation in the Soviet people, and along with it a desire to set their own will, creative genius, and the vigorous arsenal of socialist industry with its colossal capabilities against the imperialist ambitions of Washington. The builders and everyone who participated in the construction demonstrated these qualities, by com-

pleting it about twice as quickly as scheduled. As concerns the supplying of equipment, at the disposal of the builders was modern equipment for the compressor stations developed by Soviet scientists and designers, and highly productive domestic machines including heavy pipe-layers capable of competing with the well-known American "caterpillars" whose delivery from the U. S. A. was disrupted.

Our discussion with the deputy minister of the construction enterprises of the USSR Oil and Gas Industry was begun with a question about what conclusions can be drawn now that the pipeline has gone into service.

[Answer] The construction of the gas pipeline, said Aleksey Ivanovich, again demonstrated to the world the huge capabilities of the economic, scientific, and engineering potential of our country and the advantages of a planned economic system. But along with this, as in a drop of water, it reflected the complex circumstances of the modern spiral of world development and the hostility between the forces supporting the broadening and strengthening of international economic cooperation and the other forces attempting to torpedo this cooperation.

The agreement "Gas for Pipes" is the largest economic agreement of any concluded between the USSR and the West. No wonder journalists at once christened it "the contract of the century". The agreement specified the delivery into Western Europe of up to 40 billion cubic meters of gas per year and carried with it, for the industries in Western countries and Japan, industrial orders amounting in all to more than 10 billion dollars. The project was developed in 1978, in a period of relaxed international tension, and the signing of the contract took place at a time when relations between the East and the West, for well-known reasons, were significantly aggravated.

But from the first communications in the press about the project agreement, the Washington administration began an unprecedented attack on it. The U.S.A., in order to disrupt the contract,proposed instead to export additional amounts of its coal to Europe. Then they originated proposals about transporting liquified gas from Alaska. In a word, everything and anything provided only that Soviet gas not be delivered.

To the credit of many industrial firms in the FRG, France, England, and other countries, it is necessary to say that they did not yield to the Reagan administration's pressure, and continued to deliver the necessary equipment and pipe to the USSR realizing, in so doing, their own indubitable profit and also that a division of labor between states and their economic cooperation is a way which has a future. The well-known American scientist and environmentalist B. Commoner, more than ten years ago wrote: "Now that the environment has presented its bill to us, our choice has been reduced to two variants; namely, either social rationalization of the use and distribution of Earth's resources, or a new barbarism."

[Question] Nevertheless, Aleksey Ivanovich, some of our readers in their letters express anxiety about the wide scale shipment of Soviet natural gas abroad.

[Answer] I well understand the proprietary interest of the Soviet people in the rational use of the country's natural resources. But in this case, any doubt is to no purpose. The rapid increase in the extraction of gas and the expanding network of gas pipelines allows us, without harming the economic development of the Soviet Union, to actively introduce natural gas into the foreign trade exchange.

Relative to this matter, I would like to recall that still at the dawn of Soviet rule, one of the associates of Lenin, G. M. Krizhizhanovskiy, wrote that: "The question about the mineral resources of Siberia and about the the utilization of these riches - this is not even a question for the USSR, but a question for world order."

[Question] Siberian gas formerly came into Uzhgorod, and now it will go farther - into the countries of Western Europe. It will go as a symbol of peace, warmth, and human happiness. What specific route will it take after crossing the border of our country?

[Answer] Upon reaching the USSR border in the Uzhgorod region, the gas will go farther over Czechoslovakian territory. To three existing lines of a transit system a fourth will be added,having a length of about 860 km, which is being built by our Czechoslovakian friends. Farther on, our gas will be poured into already existing trunk lines and will go in two principal directions - to Austria and to the FRG. And from there to Italy, France, Switzerland, and also West Berlin.

As an example, it can be said that according to the protocol recently signed in Vienna which defines the period and volume of deliveries of Soviet gas for 1984, in Austria it will amount to approximately three quarters of the total demand for the blue fuel in that country.

[Question] It appears that it should be noted that the pipeline from Urengoy to Pomary to Uzhgorod became an example of international collaboration not only in the use of natural resources, but also in the field of cooperative work by builders from various countries.

[Answer] Yes. In constructing the pipeline, contracting organizations from a number of the countries in socialist collaboration participated. Builders from the GDR and Poland helped to lay several segments of the linear part of the pipeline in the territory of our country. Czechoslovakian builders will take part in the construction of the central repair base in Uzhgorod. Several compressor stations and the industrial facilities and living complexes accompnaying them also are areas for the supplementary efforts of our partners from the GDR, Poland and Yugoslavia. It should be said that the atmosphere of friendship and mutual assistance which reigned in all subdivisions of the international collective,in many respects, has enabled the success of the construction. Meanwhile, the common undertaking attracted not only

specialists and builders. In the past year in Zakarpat, the IVth International Plener of painters was convened under the slogan: "The Gas Pipeline is for Neighborliness and Peace". For three weeks, artists from Moscow, Kiev, Lvov, Czechoslavakia, Hungary, and Rumania worked together developing on their canvases a portrait of the construction of the pipeline. These are specialists of high qualifications who are internationalists in spirit.

[Question] Collaboration with builders from brother socialist countries on the construction of underground trunk lines has a long history. Tell about it please.

[Answer] Yes. For about two decades successful collaboration has been continuing for the countries who are members of CEMA. The first large international construction project was the oil pipeline "Druzhba". Five countries: Czechslovakia, Poland, Hungary, GDR and our own took part in the realization of the project. Now this system has a length of almost 10,000 km. Oil is brought to it from Siberia and Kazakhstan. For 21 years the system has worked perfectly.

By the way, this first international construction project endured its own "sanctions". The Adenauer government imposed a ban on the delivery of large diameter pipes to the USSR. So, in the shortest period of time, we, ourselves, learned to make the necessary pipe.

Then there was another whole series of international construction projects which permitted accumulating adequate experience to undertake for cooperative accomplishment in 1975 the grandiose project to equip the third stage of the Orenburg gas deposit and construct the main pipeline "Soyuz" from Orenburg to the western border of the USSR. The general agreement was signed by the heads of the governments of seven countries: Bulgaria, Hungary, GDR, Poland, Rumania, USSR, and Czechoslavakia. The "Soyuz" line was, I think, the most "communist" of the known projects. Five thousand communists and 6,000 members of the youth organization worked in 15,000 collectives. The highly organized international detachment of the working class of the socialist countries personified our brotherly unity. The gas pipeline was built by September of 1978 - a rate of construction that was unheard of until then.

[Question] Aleksey Ivanovich, would you tell about what experience of such huge projects made the ministry of construction enterprises of the USSR Oil and Gas Industry into a world-level company, which, over these years has acquired a good reputation in the whole world?

[Answer] Perhaps nowhere are there such companies as ours. USSR Minnefte-gazstroy [Ministry of Oil and Gas Construction], on the basis of intergovernmental agreements and contracts, carries out construction or renders engineering assistance in the construction of oil and gas facilities in many countries. With its participation, more than 40 facilities have been built in Iraq and Iran, in Afghanistan, Vietnam, Nigeria, Algiers, Angola, Lebanon, Finland, and other countries. At present discussions are being conducted about constructing a number of large oil and gas facilities in Ethiopia, Greece and Turkey.

It must be emphasized, especially, that the economic relations of our country with the developing countries are being carried out on a long-term, stable, and mutually beneficial basis, and they serve the purpose of developing the national economies and strengthening the independence of these countries. Where the specialists of Minneftegazstroy should not work is one of the main problems. They also consider the training of national personnel.

Our country has always been for, and always will be for the broadest business cooperation with all countries of the world. This is once again demonstrated in the "contract of the century", the main political conclusion of which is that a policy of relaxation is the only alternative to confrontation, and that international economic cooperation is important as a means of strengthening mutual understanding and trust among nations.

Perhaps the thousands and thousands of West European workers who, thanks to this contract, are not unemployed do not think the same way? And perhaps the many sober minded industrialists from FRG, France, England, and other countries who gave a proper rebuff to the Reagan sanctions do not have the same position? And perhaps for each housewife in her kitchen, the gas from far away Urengoy does not light up a flame of hope for a peaceful future?

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METHODOLOGY FOR DEVELOPING URENGOY GAS FIELD DESCRIBED

Moscow GAZOVAYA PROMYSHLENNOST' in Russian No 3, Mar 84 p 30

[Article by P. A. Geresh of PO Urengoygazdobycha [Urengoy Production Association for Gas Recovery] imeni S. A. Orudzhev: "Peculiarities of Developing the Urengoy Field"]

[Text] In order to select and substantiate an optimal variant for developing the Urengoy complex over a lengthy period of time, a reliable evaluation of the reserves of this field's underground storehouses is necessary. Experience in developing prepared deposits and the simultaneous conduct of exploration in deeper horizons will help in the effective solution of this task.

Three stages in the occurrence of gas condensate and crude oil whose structural formations coincide can be singled out in the field's profile.

The Upper Stage is a Cenomanian deposit confined to Upper Cretaceous sediments with a depth of deposition of 1,080-1,260 meters. The main gas reserves that have been discovered in the profile have been concentrated here. The deposit is of the massive type. The formation pressure is hydrostatic. The formation temperature is 33 degrees C. The gas is primarily methane. The Middle Stage is a productive complex of gas-condensate deposits, which is complicated by oily shoestrings and is related to Barramian-Valanginian deposits of the Lower Cretaceous. The main reserves are confined to depths of 2,650-3,050 meters. The type of deposit is stratal. The formation pressure is hydrostatic. The formation temperature is 70-95 degrees C. The heavy hydrocarbon content (condensate) varies from 80 to 250 g/cm^3.

The Lower Stage lies at depths below 3,550 meters. It is confined to Jurassic sediments (the Achim-Tyumen suite) and is under exploration. It is characterized by anomalously [high] reservoir pressure with a coefficient of anomalousness of 1.8.

The Cenomanian deposit was introduced into development in 1978. For 5 years its development confirmed the high recovery possibilities for the Cenomanian. A comparison of the drained gas reserves with the reserves estimated by the volumetric method indicated good convergence, that is, an assurance of the correctness of the basic scientific and technical decisions made at the Urengoy field, to include:

the cluster-row method of siting wells, which are equipped with large-diameter flow tubing;

a differentiated system for the drilling-in of the productive cross-section which permits uniform working along the profile and the bedding to be conducted and effective monitoring over development of the deposit to be maintained;

introduction of a complex of field-geophysical research in the gas medium for the purpose of studying the working of the productive horizons and of regulating development over the profile;

the creation and operation of multifunctional mass-exchange equipment for highly productive gas preparation; and

optimal siting of equipment at the gas-treatment installations, based upon the requirements for regulating powerful flows of gas and for reliability and convenience of servicing under Far North conditions.

During the period of development of the Cenomanian deposit, a certain lag was observed in the pace of drilling over the field and building up the facilities. This led to the introduction of various sectors of the deposit into development at different times, and, consequently, to the forming of a small cone of depression in the southern portion, with a minimum reservoir pressure of 10.2-10.3 MPa.

As an analysis of formation-pressure distribution indicated, the deposit is being worked evenly by area and by profile. Periodic observation of the migration of the gas-water contact and constant hydrochemical monitoring of condensation water carried off by the wells were made by means of a set of gas-field geophysical studies.

Jointly with the VNPO Soyuzgazavtomatika [All-Union Science and Production Association for Automation of the Gas Industry], an ASU [automated control system] for developing the field was successfully introduced into the association, and a gas-dynamics model of the Cenomanian deposit was created in practice. All this enabled the drained reserves to be determined by UKPG [integrated gas-treatment installation] zone and for the deposit as a whole, and measures to be planned for regulating development of the deposit by area and by cross-section.

A YeS-1045 computer was put into operation at the Urengoy field. For effective use of the computer, it is necessary to provide for the development, industrial production and introduction of a remote-control complex for monitoring operation of the wells. The ASU technology tasks and the overall tasks of controlling such a complicated economic complex as Urengoy is today awaits solution.

The middle stage of petroliferousness is represented by a whole complex of gas-condensate deposits, which are complicated by peripheral and underlying crude-oil shoestrings. A distinguishing feature of this stage is the existence of independent formation of deposits with a high heavy-hydrocarbon content.

In order to accelerate the introduction and development of the Valanginian deposit, Mingazprom [Ministry of Gas Industry] has decided to drill over the middle gas-bearing stage at an outstripping pace and to study in detail the parameters of the productive formations and wells during the initial period of regular operation. For drilling over gas-condensate deposits, the best drilling collectives of the Ukraine and the Kuban have been enlisted. With their help, it is planned to drill a certain number of reservoir-evaluation holes, which will enable the geological structure of the Lower Cretaceous deposits to be made out in detail and the nature of the distribution of liquid hydrocarbons in the productive strata to be clarified. With the introduction into industrial development of Lower Cretaceous deposits of the southern element of the central uplift portion of the Urengoy field in 1984, tireless attention must be paid to a study of the mode for operating the gas, oil and condensate deposits and to the facies transformation of hydrocarbon mixes in the rocks' pore space as the reservoir pressure drops.

Preliminary laboratory studies have indicated that when the Urengoy-field gas-condensate deposits are developed to exhaustion, it will be possible to extract no more than 60-70 percent of the condensate. A drop in reservoir pressure by 25-30 percent will promote the almost complete fall-out in the pore space of the condensate's heavy (diesel) fractions. In this connection, it will be necessary in the near future to obtain authentic information and to make a technical decision on the additional extraction of liquid carbons from the field's productive strata.

Relative to the circumstances of the Urengoy field, MINKhiGP [Moscow Institute of the Petrochemical and Gas Industries] imeni I. M. Gubkin is developing, jointly with VNIIgaz [All-Union Scientific-Research Institute for the Gas Industry] and other petroleum institutes, a technology for the combined recovery of reservoir fluids from deep horizons.

The efforts of exploration organizations are now aimed at studying the third stage that is saturated with gas and oil, whose lower limit (bedding of solid rock), according to preliminary data, lies at a depth of 6,000-7,000 meters. During the testing of exploration well No 95 at the 3,555-3,572 m interval, a commercial flow of condensate mix was obtained. During the drilling of well No 266, the deepest in Tyumen Oblast, gas shows were observed throughout the entire profile to bottom-hole touchdown at 5,024 meters. Soon, with good-quality exposure and mastery of deep horizons in wells drilled through and in wells being drilled, it will be possible to give a reliable assessment of hydrocarbon reserves down to 5,000 meters.

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AZERBAIJAN MOVES TO BOOST OIL RECOVERY

Baku VYSHKA in Russian 7 Apr 84 p 2

[Article: "Bring All Reserves into Action"]

[Text] Above-plan recovery is needed every day.

The initiative of the advanced Baku oilfield workers' brigades is finding followers.

On 1 April VYSHKA published a letter by a group of foremen of Baku oilfield activities which, in the name of their brigades, called upon all oilfield workers to promote socialist competition for successful implementation of the decisions of the December 1983 and February 1984 CPSU Central Committee Plenums under the slogan, "Above Plan Recovery is Needed Every Day." The essence of the new initiative is to achieve rhythmic daily operation and to fulfill daily tasks for recovering oil and gas by strengthening labor and production discipline, introducing advanced equipment and technology, having a thrifty attitude toward equipment, and reducing losses.

Today we publish reports that tell about the support that the new initiative is receiving among the republic's oilfield workers.

Let's Keep Our Word!

Our brigade greeted with enthusiastic approval the patriotic initiative of the advanced Baku oilfield workers' brigades about promoting socialist competition to increase the earth's yield under the slogan, "Above-Plan Recovery Is Needed Every Day." In taking up the drive, we discussed with great interest our possibilities and the existing reserves for increasing the daily recovery of oil and gas at the sector of the Mishovdag field that we serve.

Our brigade completed the third year of the five-year plan with excellent indicators. Last year more than 1,000 tons of crude and a large amount of gas above the plan were recovered. A strengthening of discipline and the state of organization, an intensification of geological-engineering operations at

the active well inventory, and a rise in the effectiveness of geological-engineering measures helped us to do this. The socialist competition for maximum yield from each well, which was promoted at the initiative of the brigade of oil-and-gas recovery foreman Aliyulla Nasirov from Oilfield No 1 of the NGDU [Oil and Gas Recovery Administration] of Shirvanneft' [Shirvan Oil Production Association], aided our successes at Oilfield No 3.

Unfortunately, the pace set last year was lowered for a number of reasons, and we began the first quarter unsuccessfully. This occurred because of, to a certain extent, the electricity being switched off and the bad weather. But this also shows that not by far did we have everything in order yet. Preparation for the winter period was inadequate. The appeal of the advanced brigades remarked correctly that not everywhere has proper order been imposed yet in the repair of oilfield facilities or has steady and accidentfree work been provided for at each well.

Recently at a meeting of the brigade we analyzed the causes of the situation that had been created. In critically evaluating our work, we planned specific measures that would help us not only to overcome the lag but also to greatly overfulfill the annual task. We had committed ourselves to recovering at least 150 tons of crude above the annual task. Brigade members Kyarimula Zeynalov, Alipasha Asadov, Ali Mamedov and Roza Agayeva and other oil-and-gas recovery operators unanimously supported the initiative of the Baku oilfield workers.

They declared that they had at their disposal all the potential to provide for a daily increment to the planned amount of fuel recovery per day. Beginning with the first days of March, our brigade outdid the daily oil-recovery plan by 4 or 5 tons. This became possible thanks to the close interaction of brigade members with the overhaul and underground repair service, an intensification of monitoring over the work of each drill rig and each worker, and an increase in the number of effective geological-engineering measures.

On sustaining the Baku oilfield workers' initiative, we arrived at a unanimous opinion. If an average of at least 5 tons of fuel were recovered above the plan daily, then we would be able to cover the arrears that had been formed at the start of the year and fulfill the annual commitments successfully. For this purpose it was decided to execute eight geological-engineering measures above the plan, in particular, to convert four drowned wells to the submerged electrical-pump method of operation, to acidize the bottom hole at three other wells, and to preclude nonproductive idle time at wells that are being tended by the brigade.

--M. Shakyarov, oil-and-gas recovery foreman of Oilfield No 3 of NGDU Shirvanneft' (Ali-Bayramly)

In Order to Increase the Formation's Yield

Oilfield No 2, which is under Shargiy Adigezalov, is one of the few in the NGDU [Oil and Gas Recovery Administration] of Leninneft' [Lenin Oil Production Association] where the average daily recovery per well does not exceed even 1 ton of crude. Therefore, all the concerns of the chief and of his

assistants--Kim Akopyan and Zakhid Nuriyev--who shared with him responsibility for fulfilling the state plan, dedicated themselves to preventing a weakening of the oil streams that make up the overall flow.

"During the first 3 years of the 11th Five-Year Plan," says Azerbaijan SSR Distinguished Engineer Sh. Adigezalov, "our oilfield collective recovered almost 750 tons of crude toward the commitments adopted. That means a shortfall of 300-350 kg of fuel each day. But it was possible to do better. We carefully weighed our possibilities and decided to recover 1 ton of crude above the plan every day. This is how our collective reacted to the call of the advanced Baku oilfield-workers' brigades to promote competition to increase withdrawal from the ground."

The solution of this task required diversified work on the operating inventory. But the oilfield workers did not have to experiment. Any initiative always find engineering support, and such an approach to the matter will help the existing reserves to be used more completely.

Take the brigade of foreman Nadzhaf Nadzhafov, which was one of the first in the administration that decided to operate under strenuous plans. Its sector, at which there are 100 wells, is considered to be complicated. The main difficulties are the frequent sand bridges, which decrease the wells' productivity. Therefore, the main attention here is paid to effective ways of strengthening the bottom hole.

"Of course," says foreman N. Nadzhafov, "we make the performance of a large number of various measures the main thrust of our work. Under our circumstances, supplemental perforation and reperforation of the filter yields an appreciable increment. On the average, the increase is 1-1½ tons of crude per well. And thus No 2,342 boosted the flow rate right off by 2-3 tons. Relying upon our many years of experience and the specialists' knowledge, we are counting on increasing withdrawal from the formations still more."

There are other reserves also in the oilfield sector. Well No 3,628, which was drilled through by the overhaul forces, went into operation recently. Its flow rate was 3 tons of crude. Prior to the end of the current year it is planned to drill another three wells, which, it goes without saying, will help in resurrecting the old oilfield.

At the same time, the oilfield workers are placing their hopes for success on precise and highly productive work by the brigades that make underground repair on wells. In accordance with the example of the repair workers of the NGDU of Azizbekovneft' [Azizbekov Oil Production Association], they converted to the system that is free of work orders, under which the brigade's work is evaluated not according to quantitative but to qualitative indicators. Unfortunately, the possibilities of this progressive form of organizing the work still have not been completely exposed.

January and February were difficult for the collective. But the oilfield workers managed to mobilize their efforts for successful plan fulfillment. In March a step forward was taken: the first tons of crude to be credited to the account of the commitments adopted were recovered.

The competition for daily above-plan recovery has just started. Operators Valentina Simonova, Akper Akperov, Lidiya Ponomareva, Nazim Shakhbazov, Idyat Amiraslanov and other oilfield workers are showing great interest in having their conscientious work bring their oilfield into the ranks of the advanced ones.

--A. Orbelyan,
VYSHKA general correspondent (Baku)

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GAS INDUSTRY COLLECTIVES ADOPT ADDED COMMITMENTS FOR 1984

Moscow GAZOVAYA PROMYSHLENNOST' in Russian No 3, Mar 84 pp 1-2

[Editorial: "Socialist Commitments of Gas-Industry Association, Enterprise and Organization Collectives for 1984"]

[Text] Workers of Ministry of Gas Industry associations and enterprises, in reacting with selfless labor to the decisions of the 26th CPSU Congress and the subsequent CPSU Central Committee Plenums, completed on 15 October, ahead of schedule, fulfillment of the plan for the first 3 years of the five-year plan for recovering gas and for raising labor productivity and other basic technical and economic indicators. The country's economy obtained more than 25 billion m^3 of gas above the established goal during this period.

In 1983, the core year of the 11th Five-Year Plan, which was celebrated with shock work, the plan for basic indicators was fulfilled 27 December and the highest increase in gas recovery, in the amount of 35.2 billion m^3, was obtained. Goals for growth in labor productivity, profit, savings of fuel-and-power resources, and putting housing into use were overfulfilled. The transcontinental Urengoy-Pomary-Uzhgorod gas pipeline was put into operation at full capacity ahead of schedule.

Inspired by the decisions of the December 1983 CPSU Central Committee Plenum and striving to make their contribution to solution of the tasks assigned, the industry's workers widely promoted competition for a further rise in production effectiveness and adopted the following socialist commitments for 1984.

Take specific steps to improve the organization of production and work, to introduce integrated mechanization and automation of operating processes, to raise the shiftwork factor for equipment operation and to achieve the planned labor intensiveness, and to strengthen state, technological and labor discipline. Provide for an above-plan rise in labor productivity by 1 percent and an above-plan reduction in production costs by 0.6 percent.

Complete fulfillment of the state plan for gas recovery on 29 December. Provide for record growth in gas recovery. Recover 3.8 billion m^3, manufacture 200,000 tons of liquefied gas and produce 1 million rubles' worth of consumer goods--all above the plan.

Increase efficiency and quality in the sinking of wells and increase the net effective drilling speed over the established goal by 5 percent, including a 7-percent increase during drilling from floating platforms.

Obtain additional profit in the amount of 50 million rubles. Move all the above-plan gas with energy resources that have been saved, and save 400 million kWh of electricity, 1.9 million gigajoules of heat energy, 1,000 tons of metal, 2,300 tons of casing and drill pipe, 2,330 tons of turbine oil and 940 tons of chemical reactants.

Provide for the further development and increase in operating reliability of the country's Unified Gas-Supply System, and put the linear portion of the Urengoy-Central Economic Region gas pipeline No 1 into operation ahead of schedule.

Increase the operating time of gas-pumping units by 5 percent over 1983 by strengthening operating discipline and improving the quality of overhaul and preventive maintenance.

Turn over a year ahead of the established deadline the gas pipeline to the Stavropol GRES, and also build 12 gas branch lines to large electric-power stations that total 498 km in length, which will enable the national economy to save 6 million tons of mazut.

Provide for the introduction into operation of the new Karachaganak field in the Kazakh SSSR, and complete construction of facilities for the recovery, preparation and transport of the Urengoy field's condensate. Promote preparatory work on developing the Yamburg field: the construction of a pier, a pioneering settlement, facilities for a power supply, roads, an ORS [department of workers' supply] and platforms for cluster-well drilling.

Widely promote work on the most rapid introduction of scientific and technical progress in the industry. Master ahead of schedule the operation of new types of highly effective gas-pumping units of increased unit capacity of the GPA-25/76, GPA-Ts-16 and GTN-16 types. Introduce 5 ASU TP's [automated systems for controlling industrial processes] above the plan at the industry's facilities. Introduce an industrial-test installation for obtaining diesel fuel at the Urengoy field. Manufacture 500,000 household gas stoves of the highest quality category and increased convenience. Provide for an above-plan economic benefit of 15 million rubles by introducing additional measures for new equipment and technology. Raise the creative activity of innovators and inventors and obtain an economic benefit of 65 million rubles by introducing their suggestions.

In realizing the program for the industry's social development, introduce into operation 920,000 m^2 of total space for housing, preschool institutions for 5,000 children, general education schools for 5,500 pupils, a hospital for 450 beds, and polyclinics for 420 patients per shift.

Increase the operating effectiveness of sovkhozes and subsidiary farms, increase production over 1983 by 4 percent for meat, 6 percent for milk and for vegetables 4.3-fold and grain 1.2-fold. Provide for a 9-percent increase in

cattle, an 8 percent increase in sheep and a 4-percent increase in hogs. Sell the industry's workers 4 million rubles' worth of commodities and 1 million rubles' worth of in-house output above the plan.

In order to man gas-industry facilities completely with qualified personnel, train 27,500 and raise the skill levels of 67,300 workers, and send 3,700 graduates of vocational and technical schools and 1,800 demobilized soldiers to production work. Train 170,000 of the industry's workers in the economic-education system and schools of communist labor.

Continue work on the wide dissemination of brigade forms for organizing work and the introduction of cost accounting as most progressive forms for manifesting responsibility and discipline at each workplace. Widely disseminate advanced experience and valuable initiatives, including the initiatives of advanced production workers and the best brigades, services and sectors and indoctrinate workers in a creative attitude toward labor.

The gas industry's workers assure the Leninist Central Committee and the Soviet Government that they will achieve new successes in executing the decisions of the 26th CPSU Congress and will carry out successfully the tasks and socialist commitments for 1984, thereby making a worthy contribution to implementation of the USSR's Energy Program.

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BAD MANAGEMENT IMPEDES GAS EXTRACTION

Ashkabad TURKMENSKAYA ISKRA in Russian 17 Feb 84 p 2

[Article: "Misalignment" under the heading: "The Plan Was Not Fulfilled - Why?"]

> [Text] Perhaps for the first time in the whole history of its operation, the Shatlykgazdobycha [Shatlyk Gas Producing] Industrial Association did not cope with the monthly plan. Among those not keeping pace, this large subdivision of the VPO [All-Union Industrial Association] Turkmengazprom [Turkmen Gas Industry] found that it was not its own fault. Here is what V. S. Nazemkin, general director of the association, says.

Not once did an alarm appear in the pages of newspapers about the lagging behind of the rates of gas construction in the republic from the amounts projected for the extraction of the blue fuel. The specific misalignment in the planning is the disproportion between two closely connected industrial sectors; namely, the construction of facilities for the gas industry, and the operation of these facilities. The disproportion has been compounding itself over the years of the past two Five-Year Plans and now has made itself known.

The state assignment to our association for January was developed based on the placing into operation of the oilfields in Sovetabad and Uchadzhi. The Turkmenneftegazstroy [Turkmen Oil and Gas Construction] Association, however, disrupting the the fundamental plans, prevented us. Not receiving the new outputs, gas production was in a poor situation. The Davletobad Gas Industry Administration was able to receive Sovetabad gas only on January 26th. But, I will note, the state commission's report about placing the first stage of the deposit into production had not been signed, the water-intake structure had not been completed, and unfinished items on the main structure and on the installation for the preliminary preparation of gas had not been completed.

Right now, the general subcontracting trust Shatlykgazstroy is speeding up these operations. But here is the Naipgazstroy trust, to which was entrusted the construction for the Uchadzhi area, laboring on the facility very badly.

According to the reaffirmed start-up complex, the deposit should go into operation no later than March, but the business is moving slowly there.

The builders are falling behind. They assure us that 60 men are working there; however, we are convinced that no more than 30 are working directly on the installation. This is clearly insufficient. Right now, installers of the SMU-5 [Construction and Installation Administration-5] of the Sredazneftegazmontazh [Central Asian Oil and Gas Installation] Trust have gathered high rates of speed in the work. They have placed everything that it is possible to place, and tied down everything that can be. They could do much more if they were not delayed by the builders.

Up to now there are no foundations, no supports under equipment or pipelines on the platform for the input lines, and construction work is not being done at the heads of wells Nos. 26 and 34 which have been set up. The chief of SU-2 [Construction Administration-2] of the Naipgazstroy Trust, N. Abdulkerimov, complains about the shortage of fuel and lubricating materials (that is why, he says, the machinery stands idle), the shortage of crushed stone and slate - hence the tardiness with the gear for the platforms and so on. But in my opinion, the root of the trouble is poor organization of labor and production.

At Uchadzhi, the expensive production equipment has been delivered - the shaped reinforcing rods and small parts - it is necessary to put them to use. It is no secret that the longer the time construction takes, the more costly it is to the state. Much is being lost, and facilities are being supplied with parts twice. That is no way to manage. The personnel of our association took upon themselves the obligation to raise labor productivity above the plan by one percent and additionally to reduce the cost of extracting gas by one-half percent. The preservation of production and electrical equipment, fittings, and pipes and their rapid installation and being put into operation are important conditions for fulfilling the obligations.

The lagging of the Shatlykgazdobycha collective will be overcome only if it receives in full measure the planned facilities at Uchadzhi and Sovetabad.

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OIL AND GAS

NEW RIG DESIGNED FOR WESTERN SIBERIAN CLUSTER DRILLING

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 1 Apr 84 p 1

[Article by special correspondent I. Mordvintsev: "Drilling Rigs for Siberia"]

> [Text] Volgograd - Manufacturing has begun at the Volgograd Drilling Equipment Plant on the first industrial series of BU-2500EUK rigs for cluster drilling under Western Siberian conditions.

Let us, together, feast our eyes on the certificate of acceptance of the pilot model of the BU-2500EUK drilling rig which has been approved by the first deputy minister of the petroleum industry, V. Igrevskiy. It is a comparison of results from the new unit with average data obtained by the Megion Administration of Drilling Operations and the Batinsk deposit where the tests were carried out. The comparison is eloquent. The commercial drilling speed on the rig rose from 3,469 to 4,568 meters per month, the time for moving from point to point within the limits of a cluster was reduced from 1.7 to 1.45 brigade-days, and the cost per meter of penetration was lowered from 58.46 to 47.26 rubles.

What advantages of the factory furnished cluster rig assured its victory in the competition?

"We supplied the new rig not only with powerful rail ways, but also with hydraulic pushers" explains V. Pyndak, the chief designer of the plant. "With their assistance it is possible to move to a new point within the limits of a cluster without recourse to tractor pulling and without involving derrick installation teams. Other means for the mechanization of labor-consuming operations are provided. As intended, the factory-furnished unit turned out to require about 50 tons less metal.

I remeber in earlier days when the mercury was out of sight in the thermometers, the Siberian probers of the depths invariably were activated. The metal did not hold up. In such a time, touch one pipe against another and they break - they are like china. But, meanwhile, any stopping of the drill was fraught with unpleasantness. How does the new rig look in this sense?

It turns out that the machine builders have taken this into account. All the heavy-duty structures of the rig are made of a relatively cheap low-alloy steel which works very well in freezes down to minus 60 C. A closed steam heating system has been supplied for all principal machinery. Stationary coverings will be supplied with the rig to protect people from the severe cold.

There is another important quality. The equipment is made in large blocks or modules. There is a minimum of assembly and fitting. It is delivered, connected, and you drill. Nevertheless, in the installation of all five units of the first industrial series, plant specialists certainly will participate."

What are plans for the future?

"The principal article of the next generation" answers A. Gen'kin, chief engineer of the enterprise, "will be a drilling rig which we are calling 'Sibir' for short in our studies. It also is adapted for cluster drilling; however, all its principal mechanisms are designed to use direct current. Thanks to that innovation, it will succeed in providing smoother regulation of the rotation of the principle mechanisms and reduce power consumption. And metal also. The amount of metal will be 60 tons less for each 'Sibir'.

Recently the first direct current rig was sent out for industrial tests by the Orenburgneft [Orenburg Oil] Association."

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NEFTYANYYE KAMNI OILFIELDS SURPASSING PLAN GOALS

Baku VYSHKA in Russian 21 Mar 84 p 1

[Article by A. Kyazimov (Neftyanyye Kamni): "The Oilfield Workers' Goals"]

[Text] The collective of Oilfield No 5 of the Production Association for Oil and Gas Recovery imeni 22d CPSU Congress has recovered 640 tons of fuel above the plan. This exceeds its socialist commitments for the year by far.

Almost all the field's wells are operating on optimal technological procedures. This became possible thanks to the conduct of effective geological engineering measures at more than 30 wells, with a resulting 2,600 additional tons of crude.

The collective is doing much work to start up inactive wells. For example, well No 602, in which a gaslift valve was installed at a depth of 500 meters, was put into operation well ahead of schedule. Its daily flow is 6 tons of crude. At well No 638, which had been idle, the oilfield workers eliminated a sand bridge at a depth of 900 meters, and now this well is delivering 20 tons of "black gold" daily.

These days, the oilfield workers, inspired by the speech of CPSU Central Committee General Secretary Comrade K. U. Chernenko at a meeting with voters, are successfully working on inactive wells Nos 713 and 721. The brigades of oil-and-gas recovery foremen Mamedal' Guseinov, Tel'man Ismailov, Faruk Mamedov, Gyul'agi Salmanov and Tel'man Mamedov are constantly overfulfilling shift goals. In so doing, operators Shakhguseyn Gadzhiyev, Gadzhiaga Babayev, Ami Ibragimov, Guseinaga Pashayev, Faik Gamidov and others are especially distinguishing themselves. The oilfield collective, having promoted competition to fulfill and overfulfill five-year plan tasks successfully, has resolved to recover another 450 tons of crude above the annual goal.

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CONVEYORS TO CARRY KRASNOYARSK COAL TO POWER PLANTS

Moscow NEDELYA in Russian No 7, 1984 p 4

[Article by L. Aleynik, correspondent of the USSR Minmontazhspetsstroy [Ministry of Installation and Special Construction Work] Press Center (Krasnoyarskiy Kray): "An Unprecedented Conveyor"]

[Text] The Kansk-Achinsk basin of brown-coal fields is one of the largest in the world: more than 400 billion tons of fuel have already been explored there, and, since the fuel is not at great depths, it is not necessary to build underground mines. The upper layer of barren rock must be removed, and then the prime costs for producing the fuel are one-fifth that of producing it by underground mining. The coal will be needed by a cascade of high-capacity electric-power stations that are to be built in the region. The first of them, Berezovskaya GRES-1, is already being erected. But how will the coal be delivered there? The problem was studied, and it was considered unprofitable to use rail and motor-vehicle transport--to operate thousands of freight cars and hundreds of heavy dump trucks; and the coal hauling should be uninterrupted, round the clock.

"It was decided to build a conveyor," says A. Komashenko, director of VNII [All-Union Scientific-Research Institute] for Elevating and Conveying Machinebuilding]. "The task of designing a structure unprecedented in domestic practice--a 15-km long conveyor!--was assigned to our collective and to designers of Sibgiproshakht [Siberian State Institute for Coal-Mine Design] and Giprokhimmontazh [State Institute for the Design and the Technology of Erecting Chemical Industry Enterprises] of USSR Minmontazhspetsstroy. The job was undertaken with enthusiasm and many experiments were conducted. One variant was settled on: two working belts made of especially strong rubber-cable material 2 meters wide, the weight of both being 7,300 tons, will deliver a giant flow of fuel (up to 100,000 tons per day) from the strip mine. For reliability, the conveyor is divided into 3-km sections. Each will be equipped with a powerful electric drive and a belt-tensioning station. Work is now being done at a number of plants--for machinebuilding and for manufacturing elevating and transporting equipment--on components and parts for the unprecedented conveyor, which will move the coal at a traveling speed of 180 meters per minute."

At Giprokhimmontazh I met with those who designed the technology for erecting the specially built conveyor. I. Petrukhin, the institute's chief engineer said:

"The conveyor will be placed on supports, basically at a height of 4 meters. Thirty-meter modules, with all the "stuffing" of metal structure and pipelines, will be delivered in finished condition on prime movers to the place of installation. Cranes will place the modules at the designed height there."

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DISSERTATION SUGGESTS IMPROVED GAS-TREATMENT SCHEMES

Moscow GAZOVAYA PROMYSHLENNOST' in Russian No 3, Mar 84 p 17

[Article: "Improvement of Scheme for Treating Natural Gas"]

[Text] The economical and steady operation of gas-transporting systems is governed to a great extent by the quality of the gas being transported, and this depends upon improvement of methods for processing the gas and upon the efficiency of the equipment and technological schemes at the installations.

Inadequate efficiency in cleaning natural gas of mechanical impurities and of gas condensate leads to an increase in erosion of the metal of pipelines and equipment, a deterioration of the energy characteristics of the heat exchangers as a result of their contamination, a reduction in the gas pipelines' throughput, an increase in power and operating expenditures, and an increase in the prime production costs for the gas that is recovered and transported.

Therefore, research that promotes economical and steady operation of gas-transporting systems by increasing the thermodynamic, technical and economic efficiency of the installations that prepare natural gas for long-distance transport is of urgent importance.

A dissertation presented as a thesis for the scientific degree of candidate of engineering sciences by D. I. Gritsayenko, "A Study of Contact Heat Exchange and Cooling Cycles in Schemes for Treating Natural Gas," was dedicated to questions of improving the operating schemes of installations that prepare natural gas for long-distance transport.

As a result of the research of contact exchange of heat between natural gas and a cooled absorbent, new coefficients of heat transfer as functions of pressure, contact temperature, gas and absorbent consumption, and density of the spray were obtained, as well as criterional equations for computing the coefficient of heat transfer in a packed tower apparatus when processing saturated and dry gas.

The basic energy characteristics and functions necessary for computing cooling cycles for hydrocarbon mixtures were obtained.

An operating scheme for a field installation for the integrated treatment of natural gas that has been developed provides for obtaining finished gas, a

substantial amount of gas condensate, and nitrogen-helium condensate and still allows the use of a substantial portion of the equipment of existing natural-gas preparation installations.

The inclusion of contact-apparatus schemes in natural-gas treatment installations leads to at least a 1.5-fold reduction in metals intensiveness of the heat-exchange component of these installations and a more than 3-fold reduction in its cost.

The economic benefit from using contact apparatus in the UKPG [Integrated Gas-Treatment Installation] scheme of the Shebelinskoye field while processing 1.5 million m^3 of gas per day is 148,000 rubles per year, while the benefit from introducing cooling installations that operate on hydrocarbon mixtures in the UNTS [low-temperature separation installation] scheme of the Shebelinskoye gas-condensate field while processing 20 billion m^3 of gas per year is 104,000 rubles.

In the new technological scheme for an oilfield installation for the integrated treatment of natural gas for long-distance transport, a number of processor-equipment units has been realized that enable the installation's metals intensiveness to be lessened and the energy spent in obtaining and applying coolness to be reduced. Capital investment in the technological scheme studied proved to be 35 percent lower than under a UNTS scheme with a turbine-expansion engine, and 10 and 12 percent lower, respectively, than the capital investment for UNTS's with ammonia and propane steam-compressor cooling machines.

One can become familiar with details of the dissertation in the VNIIgaz [All-Union Scientific-Research Institute for the Gas Industry] library.

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BRIEFS

ZAVOLZHSKAYA COMPRESSOR STATION STARTUP--One more gas compressor station, the Zavolzhskaya, has started to operate on the Urengoy-Pomary-Uzhgorod trunk pipeline route. The station's first unit has gone into operation. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 8, Feb 84 p 10] 11409

BALTIC OFFSHORE DRILLING STARTS--A new step in the development of the Baltic Sea's natural wealth has been taken. Oilfield workers of Kaliningradmorneftegazprom [Kaliningrad Offshore Oil and Gas Production Association] have undertaken to drill the first exploratory hole on the coastal shelf. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 8, Feb 84 p 10] 11409

GAS FOR PERM'S FARMS--Perm, 20 Mar--Gas has come to the housing of workers of Mysovskiy Sovkhoz, Perm Oblast. About 100 farm homes and apartments of rural dwellers have been connected to the "blue-fuel" trunk line. Full equipping of the farm for gas will be completed this year. The Service for Equipping Villages with Gas has been established under Permoblgaz [Perm Oblast Gas Administration]. The laying of the trunk pipelines, which take their start at Urengoy, has helped greatly in organizing it. The lines cross the oblast's land for a distance of 400 km, from the Ural Mountains to the Kama's shores. A portion of the natural gas of Tyumen's North has already been sent to rural workers. The builders of the gas lines have become the patrons of rural residents of the Kama region. Thus, one of their detachments is completing the laying of a strand from the trunk line to the Berezovka settlement. [Text] [TASS] [Moscow SEL'SKAYA ZHIZN' in Russian 21 Mar 84 p 2] 11409

CHELEKEN OFFSHORE WELL--Workers of Offshore Oilfield Unit No 3 of Chelekenmorneftegazprom [Cheleken Offshore Oil and Gas Production Association] have completed a new exploration hole on a shoal of the LAM. A good stream of commercial crude was obtained, thanks to which the daily recovery of "black gold" has been increased. The shift of foreman Ye. B. Ivanov and oil-recovery operator M. Aniayev worked excellently on completion of the new offshore artery. Yevgeniy Borisovich has four holes to his account that he has completed recently, and all of them proved to be high-output wells. During a quarter of a century of work at Cheleken's oilfields, he has gained rich practical experience and does not tolerate violations of well-completion technology. [Text] [V. Lebed'] [Ashkhabad TURKMENSKAYA ISKRA in Russian 23 Mar 84 p 2] 11409

TATARIA FIREFLOODING--The earth's interior is literally on fire, but the people are working calmly and the firefighters are not concerned. On the contrary, the operators are trying with all their might to keep the underground flame from being extinguished, to make it burn hotter, without stopping. Tataria's oilfield operators are developing the riches of the Romashkino field by means of fire. The formations in the sector are difficult, and the crude is viscous and heavy and does not rise. Then the oilfield workers lit special torches at three points, pumped air underground and sank an exploration well in the sector. The hot flame in the depths heats up the ground, and the "softened" crude flows toward the downhole pumps. The daily operating norm for the heated deposit is 200 tons. Chief geologist of Tatneft' [Tatar Oil Production Association] USSR State Prize winner R. Kh. Muslimov said in his advance report: "In-situ combustion is one of the methods for developing fields that we are using in order to increase the amount of the reserve taken from the ground. Last year, for example, supplementary physical and chemical methods for stimulating the formations and horizons enabled more than 900,000 tons of previously inaccessible crude to be extracted." [Text] [Marcel' Zaripov] [Moscow SOVETSKAYA ROSSIYA in Russian 4 Apr 84 p 2] 11409

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IMPROVED EFFICIENCY, NEW TECHNOLOGY LOWER FUEL CONSUMPTION

Moscow ENERGETIK in Russian No 5, May 84 pp 21-22

/Article by I. I. Belyayeva, engineer of Energonot (Scientific Organization of Labor Unit, subordinate to the Ministry of Power and Electrification USSR): "Branch Reserves -- Serving Economy"*/

/Text/ The regular phase of the All-Union public review of effectiveness in the utilization of raw material, materials, and fuel and power resources showed that the plans of measures elaborated and directed toward reducing the losses of electric and thermal energy by means of increased economy of equipment operation, the introduction of new technology, automation and mechanization of technological processes, improvement of the system of repairs and dismantling of obsolete, uneconomical equipment were the basis of the achievement of high technical and economic indices and the saving of fuel and power resources.

The improvement of structural solutions and unification of units and components are an important reserve for reducing the amount of steel used in steel-building structures.

A significant reduction of the metal-intensity of structures is ensured through the application of efficient types of rolled metal. The series production of construction-steel structures from light-alloyed steels, steels of heightened strength, and flexible steel sections has been organized at plants of Energostal'konstruktsiya /Trust for Installation of Steel Structures on Power Engineering Projects/.

As a result of the measures introduced during the review by the collective of Dneproenergostroyprom /Dnepr Production Association of Plants and Production Bases of the Power Construction Industry/, 248 tons of metal, 1,899 tons of cement, 360 cu.meters of lumber, 40 tons of gasoline, 75 tons of diesel fuel, 2,665,500 kilowatt-hours of electric power, and 5,317.4 gigacalories of heat were saved.

*Based on results of the All-Union public review of effectiveness in the utilization of raw material, materials, and fuel and power resources.

The following measures were carried out in the association with the goal of finding reserves for savings: the production and introduction of an automatic machine tool for the production of loops, which operates on waste-free technology, the introduction of continuous joining of beams for roofing panels made from shaped-section flooring, the use of self-lining elements on overfilled units, and the utilization of waste products from stamping production for the output of consumer goods.

In the drive for thrift and economy more attention is being devoted in the power network enterprises of the branch to the development and introduction of a system of organizational and technical measures directed toward greater economy in equipment operation. Thus, during 1982 11 measures were introduced at the Zaporozhskaya GRES with a saving of 4,720 tons of standard fuel. The main measures included mastery of the operation of 800-megawatt power units, stations 6 and 7, with extremely small excesses of air, renovation of the upper sealing gaskets of the medium-pressure cylinder of an 800-megawatt unit, reconstruction of the scrubber on an 800-megawatt power unit, et cetera.

At the Berezovskaya GRES a comprehensive program was developed for a reduction of the infiltration of air into the gas lines of boilers. The program includes a number of technical and organizational measures and gives the workers and engineering-technical personnel the opportunity for a creative search for a decrease in overconsumption of fuel. As a result of the comprehensive program implemented here, there was an 8.36 percent decrease in the number of infiltrations in 1982, which provided a saving of 6,251 tons of standard fuel.

Engineering and technical personnel of the branch, many of whom are competing in the personal creative plans for assistance to technical progress, are making an important contribution to intensification of the economy drive and search for additional reserves. Thus, 90 percent of the engineering and technical personnel of the Zaporozhskaya GRES are competing in the personal creative plans. The relative annual economic effect from the introduction of measures envisioned by these plans was 98,600 rubles for 1982 alone.

For the first time at electric power stations of the Soviet Union the creative collective of engineering and technical personnel of the thermal automation and measurements shop developed and is now implementing automation of the start-up of equipment of 800-megawatt power units while using a functional-groups control system. This permits a reduction in the time of starting operations, increases the reliability of equipment operation, excludes the possibility of breakdown in the starting period, improves the technical and economic indices, and saves materials.

An important direction for increasing efficiency and economy in energy production lies in a further reduction of specific fuel consumption in the generation of electric power and thermal energy and reduction of losses in the networks.

The measures of a comprehensive special-purpose program of the Ministry of Power and Electrification of the Kazakh SSR for saving fuel and energy resources in the 11th five-year plan are being successfully fulfilled by the collective of the REU Kustanayenergo /Regional Electric Power Administration of the Kustanay Regional Administration of Power System Management/. The target set by this program for reducing losses of electric power has been met entirely.

As a result of the fulfillment of planned measures for a decrease in the expenditure of electric power during its conveyance in electric power networks in the Turkmen power system, a reduction of 5.9 million kilowatt-hours was achieved, which enabled them to save 2,150 tons of standard fuel.

A reduction of losses of electric power in the power network enterprises is being achieved, for the most part, through the replacement of heavier gauge wire and underloaded transformers with a seasonal load, the shifting of electric power networks and substations from 35 to 110 kilovolts and from 6 to 10 kilovolts, and optimization of operation of the electric power networks.

A system of main-unit and technical accounting of electric power for all enterprises of the electric power networks has been organized with the aim of regulating the accounting and determining the structure of electric-power losses in Armglavenergo /Main Production Administration of Power and Electrification of the Armenian SSR/. On the basis of the technical accounting data a computation is made quarterly of the structure of technical losses of electric power according to voltage classes and elements of the power networks for all RES's /rayon electric power plants/ separately and for the power system as a whole.

An economic effect of 32.2 million kilowatt-hours was obtained in 1982 alone from the fulfillment of measures for a reduction in electric-power losses.

The review commissions have devoted much attention to problems of reducing above-norm and surplus reserves of commodity stocks and fulfilling the downtime norms of railcars of the Ministry of Railways USSR during loading and unloading operations.

As a result of measures carried out by the Zaporozhskaya GRES, utilization of loading-unloading equipment was improved and the delay of railway cars during loading and unloading was reduced 3.6 percent in comparison with the established norms. In accordance with the results of all-Union socialist competition the collective of the transport and fuel shop of the GRES was awarded a certificate and bonus for achievement of the highest indices on efficient utilization and reduction of delays of railcars of the Ministry of Railways USSR during the first half of 1982.

Work on the saving of electric power and material resources is combined with the introduction of advanced methods of the organization of labor and wages, which is increasing significantly the labor activity of the workers and is ensuring the improvement of all technical and economic indices.

The introduction of the brigade form of the organization and stimulation of labor has obtained wide dissemination in enterprises of the country.

Questions of the economy drive occupy a special place in the system for increasing skills and in all units of political and economic education. Efficiency in the utilization of productive reserves is the basic task of economic studies. In many enterprises of the branch classes are being held in communist labor and economic knowledge schools in the course, "Thrift Is A Communist Trait". Economic studies give power industry workers an opportunity to obtain certain practical skills in economic computations, the selection of economic alternatives, and elimination of uneconomical procedures in equipment operation. With the goal of stepping up the economic work of the power network enterprises and subdivisions of Krasnoyarskenergo /Krasnoyarsk Regional Administration of Power System Management/, in 1982 a technical-economic council was established in the regional electric power administration. This council has elaborated and had approved methodology for analysis of the financial state of the power system and an assessment of the workability of plans approved for production, labor, costs and capital construction. An analysis was also made of the fulfillment of the plan of electric-power losses in the electric power networks and ways were outlined for improving work toward a reduction of losses.

Branch efficiency experts and inventors are making a significant contribution to the saving of material and fuel-power resources. Their creative activity is directed by the VOIR /All-Union Society of Inventors and Efficiency Experts/ and BRIZ /Buro for Innovation and Inventions/ councils of the enterprises by means of thematic planning of the most important work and the organization of reviews, contests, and socialist competition for achievement of high results in each creative collective.

The proposals submitted in the course of the review have promoted maximum saving of ferrous and nonferrous metals, electric power and thermal energy, fuel, cement, commercial timber, and other types of raw material; the improvement and development of new technological processes and designs, which provide for an increase in the useful production of output and decrease of losses of raw and other materials; introduction of advanced, economical types of materials in place of materials which are expensive and in short supply; regulation of the accounting and storage of physical assets and reduction of above-norm reserves of materials.

The review commissions consider and summarize the proposals submitted during the review, set deadlines for introduction, and promote in every way their most expeditious application in production.

As a result of the creative cooperation of the workers and engineering and technical personnel, 115,000 proposals were submitted during the review. Of this number around 124,000 /sic/ proposals were implemented, with an overall economic effect of 145.3 million rubles.

In 1982 inspections were made by a branch review commission and the Central Committee of the Electric Power Station and Electrical Industry Workers Union for a check on the organization and conducting of the review in the Kuzbass, Volgograd and Kamchatka regional administrations of power system management, the Ministry of Power and Electrification of the Kazakh SSR, and the Buryat and Bashkir main production administrations of power and electrification. During the inspections recommendations were worked out for intensification of control and improvement of the work of review commissions at the local level.

As analysis of the inspection results showed, the review commissions of different enterprises reduce their work to the collection of report-data, do not reveal production "bottlenecks", pay too little attention to the mass scale of the review, and utilize the system of psychological and financial incentives ineffectively.

With the aim of a further increase of effectiveness in utilizing internal production reserves it is necessary that power network enterprises implement the following measures: organize daily, purposeful work on conducting the review of effectiveness in the utilization of raw and other materials and fuel-energy resources; not allow unproductive and unjustified expenditures; use the activity of review commissions for coordinating work directed toward intensification of procedures for saving fuel-energy, labor, material and financial resources; adopt measures for regulation of the accounting and storage of physical assets and prohibition of the formation of above-norm reserves of commodity stocks; disseminate advanced know-how on the saving of raw material, materials and fuel through the holding of meetings, schools of advanced experience, and publication of achievements of the competitors in different types of publishing organs and by radio and television; and develop competition more widely on the basis of personal and collective thrift accounts and individual creative plans.

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UZBEK GOSPLAN MEMBER DISCUSSES CENTRAL ASIAN ENERGY COMPLEX

Tashkent EKONOMIKA I ZHIZN' In Russian No 1, Jan 84 pp 10-12

[Article by P. Savchenko, director of the Scientific Research Institute of Economics under the Uzbek SSR Gosplan, doctor of economic science: "Developmental Prospects for a Fuel and Energy Complex for the Region"]

[Text] The Scientific Research Institute for Economics (NIEI) under the Uzbek SSR Gosplan, in conjunction with SOPS AN UzSSR [Usbek SSR Academy of Sciences Council for the Study of Production Forces, departmental scientific research institutes, divisions of Gosplan, and ministries and department of the repulic have formulated a long term plan for the development and location of material production sectors, the development of the nonproduction sphere and the standard of living of the population.

The methodological complexity of the development of this plan stemmed from its massive scale, the necessity for coordinating the intersectoral and intrasectoral development and location of productive forces at the territorial level, independent of departmental subordination, the upgrading of the structure of material production, the intensification of the republic's production specialzation within the overall national division of labor, and the expansion of the economic ties between the Uzbek SSR and the republics of Central Asia, Kazakhstan, and other eastern regions of the country.

Taking this complex issue into account, it is necessary to discuss some of the research methodology issues primarily because the board of the Uzbek SSR Gosplan has approved on the basic guidelines of this plan, with efforts to refinement to continue.

Projected trends in the following areas formed the basis of this research:

--the number of inhabitants, growth of labor resources and their occupation in all spheres of the national economy;

--increases in the living standards of the population, based on increased labor productivity and the implementation of the results of research and development progress;

--the effectiveness of existing and projected mineral-raw material, fuel and power, and water resources, non-metallic materials, and their economical and efficient utilization;

--priorities for the development of material production of sectors so as to assure, with minimal capital investment, increased numbers of jobs, growth in the national income, and increased turnover tax revenues from their production. These sectors include, among others, machine building, food, and light industry (currently in the Central Asian republics there is an ongoing deficit relationship between the volumes of national income used and produced, making a reduction in this deficity during the projection period a serious matter);

--equalizing the level of economic and social development of these areas and the KKASSR [not further identified] (the uneven distribution of mineral, fuel and energy, labor and water resources, non-metallic materials, etc. have resulted in differing levels of development for different regions of Uzbekistan);

--the balanced development of all links in the national economic complex (the optimal assurance for developing republic economies of all types of fuel, power, raw materials resources, construction complex components, transportation resources, etc.);

Research has shown that over the period of these projections there will be a shortage in fuel and in electric power generation capacity (basic) in Kirghizia and in Tajikistan. The Turkmen SSR possess large industrial reserve of gas which will enable it not only, on the whole, to provide for its own needs, but also to be a major gas exporter to the center of the country. A sufficient volume of projected reserves of industrial gas and coal have been discovered in Uzbekistan so that their full integration into the national economic process would fully assure the developmental requirements of the republic for fuel, electric power and electricity generating capacity.

Therefore, as a result of where the energy resources are located in the Central Asian republics, an unequal situation has developed with regard to fuel and energy complexes. The level of assurance of fuel and power for local industries also varies. In their totality, however, the fuel and energy complexes of the region, are capable of meeting the needs of all the Central Asian republics for energy resources.

For this to be the case, it is essential to coordinate the basic plans for the development and siting of productive forces in the Central Asian republics, including fuel and energy reserves.

To date, being in the center of the region, Uzbek SSR has been planning and developing its energy generation and gas transportation facilities to foster interrepublic flows of gas, electric power and electricity generating capacity. It has become the chief supplier of gas to Tajikistan, Kirghizia

and Kazakhstan. Over the projection period the fuel situation in our republic will become more difficult. The non-sulfur gas fields of the Gazliy group are reaching the exhaustion stage. Their industrial reserves will be exhausted in the near future. To replace them, low-sulfur and high-sulfur gas fields of the Murabek-Shurtan group are being developed. We will need to bring in a number of new fields to compensate for the decreased gas extraction at older fields. For this reason the Uzbek SSR will not be able to fulfill its role in supplying ever-increasing volumes of gas to the Central Asian republics and to Kazakhstan without drawing on gas from the Turkmen SSR. This raises a number of problematical issues which must be resolved in the near future.

In part, it is essential to speed up the design and construction in Uzbekistan of new gas processing plants at a number of large gas fields; to step up the exploration and development of the Gadzhak gas field and to organize here as soon as possible the extraction and delivery of tank gas to the main gas pipeline network. It is necessary to bring on line the Saman-Tepe gas field and to hook it up to the Murabek-Shurtan-Kandym system no later than by the 12th Five Year Plan. It makes sense, in the interest of the rapid development of this field, to transfer it to the jurisdiction of the Soyuzuzbekgazprom All-Union Production Association, which has extensive experience in the development and operation of this type of field.

In the plan for the development and siting of the productive forces of the Turkmen SSR it is necessary to pay close attention to the sources and delivery volumes of gas through the Sazakino-Kagan-Tashkent-Frunze-Alma-Ata pipeline system, which are essential to cover the needs of the Tajik, Kirghiz and Kazakh SSRs over the projection period.

The coal industry in the Uzbek, Kirghiz, and Tajik SSR should receive extensive future development. The resource potential of this sector is considerable. Of all of the currently known fields, the most promising from a geological perspective is the Angren brown coal field, which is being worked by the open pit method. A sharp increase in the production of solid fuel has been projected for this field. Also discussed is the task to develop in Uzbekistan a second coal base at the Baysun bituminous coal field.

As far as electric power is concerned, it is important to integrate the development of hydroelectric and thermal power plants. Currently in Central Asia a policy has been in force to give priority to construction of hydroelectric plants (GES). This trend may turn out to be a rash one, capable of doing great material harm to the national economy.

In the regional conditions of Central Asia, where agricultural production is based on irrigation agriculture, water resources are used unevenly. The accumulation and massive release of water onto cotton fields is not consistent with the interests of power generation. For this reason the utilization coefficient of the hydroelectric potential of the power plants is low, and deviates sharply from their design parameters, because during massive irrigation, the water is released bypassing the rotors of the power plant

turbines. Moreover, in Central Asia there are frequently long periods of droughts. Under these conditions no more than 30 percent of the capacity of all power plants in Central Asia is utilized.

The gap between the existing and the expected capacity of the hydroelectric power plants is so far extensive. To assure the constant functioning of the power system and reliable supplies of energy to the Central Asian republics in accordance with the plan, it is imperative to look into the development of an appropriate reserve capacity provided by thermal power plants.

A major difficulty in the formulation of a mutually coordinated plan for the development and location of material production under the regional conditions of Central Asia is the fact that the annual and five year plans of the fuel and energy and other balances are developed individually by the Central Asia republics, without discussing the regional implications of their decisions.

It appears that all pre-plan development and coordination in relation to the foregoing issues at a regional level should be undertaken by scientific and research institutes for economics under the Gosplans of the Central Asian Republics. Close working and creative contacts should be set up between them for the conduct of research and the exchange of scientific information.

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